DOCKET 2982560

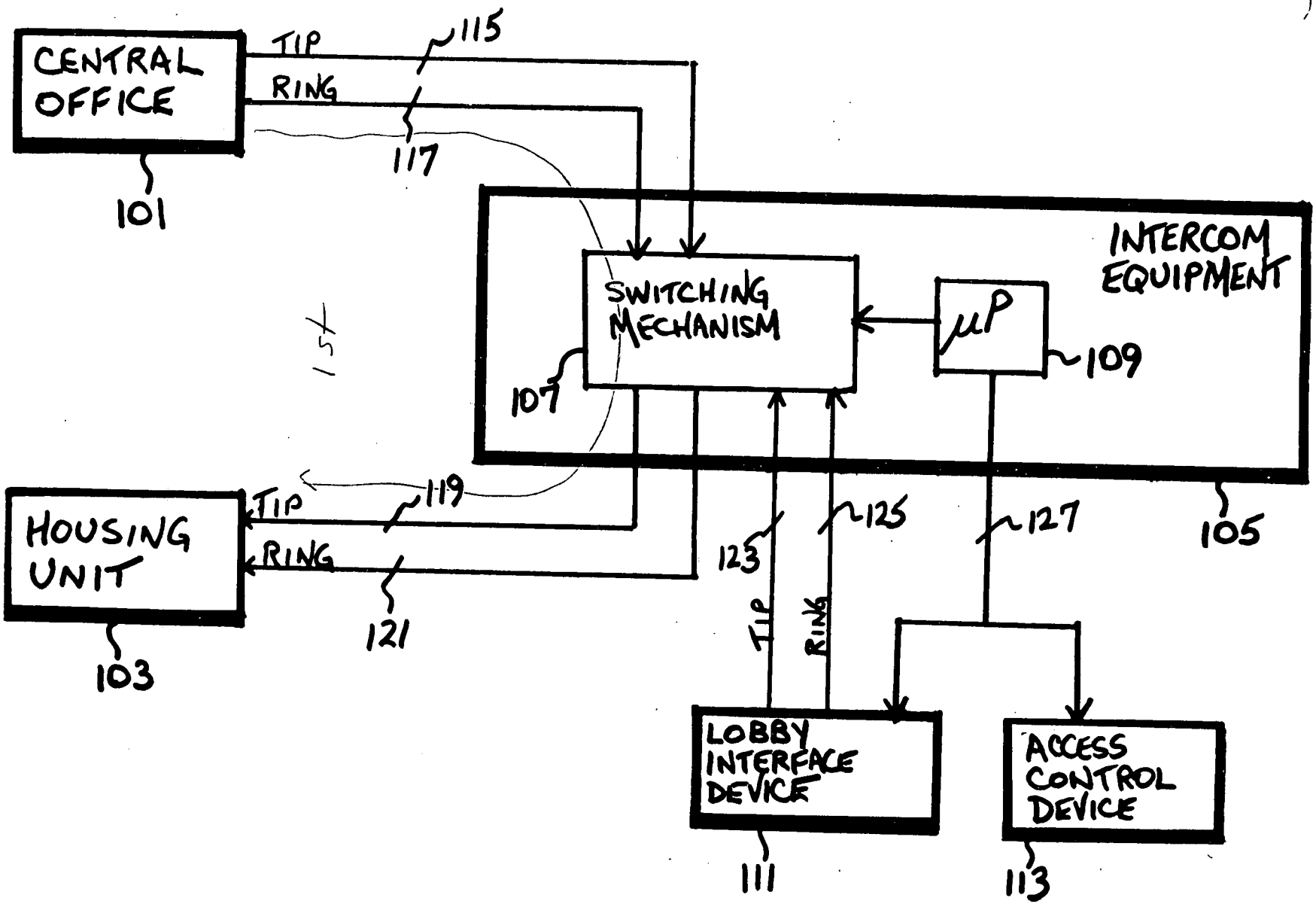

FIG. 1
PRIOR ART

DOCKET" 2922560

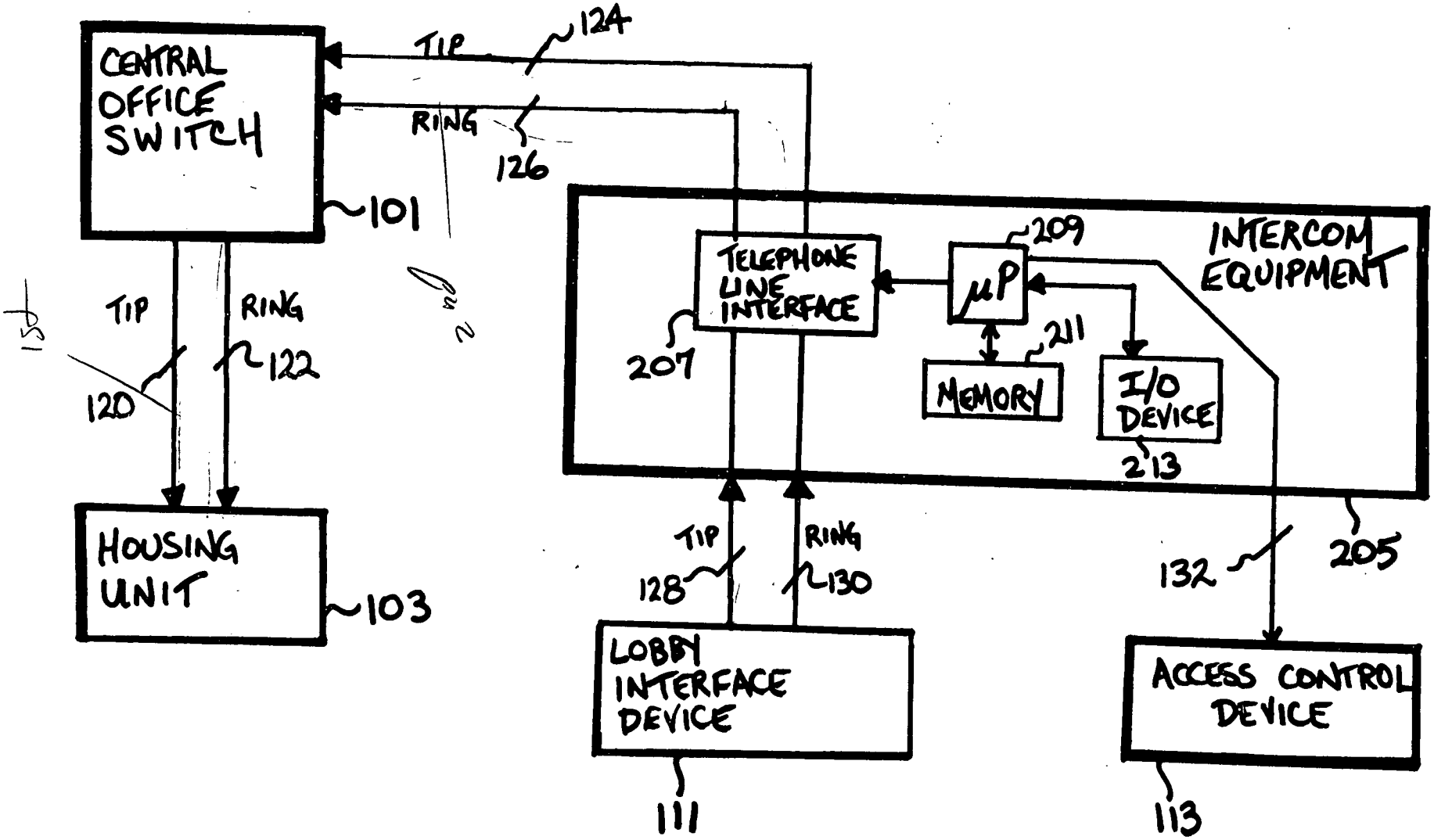

FIG. 2

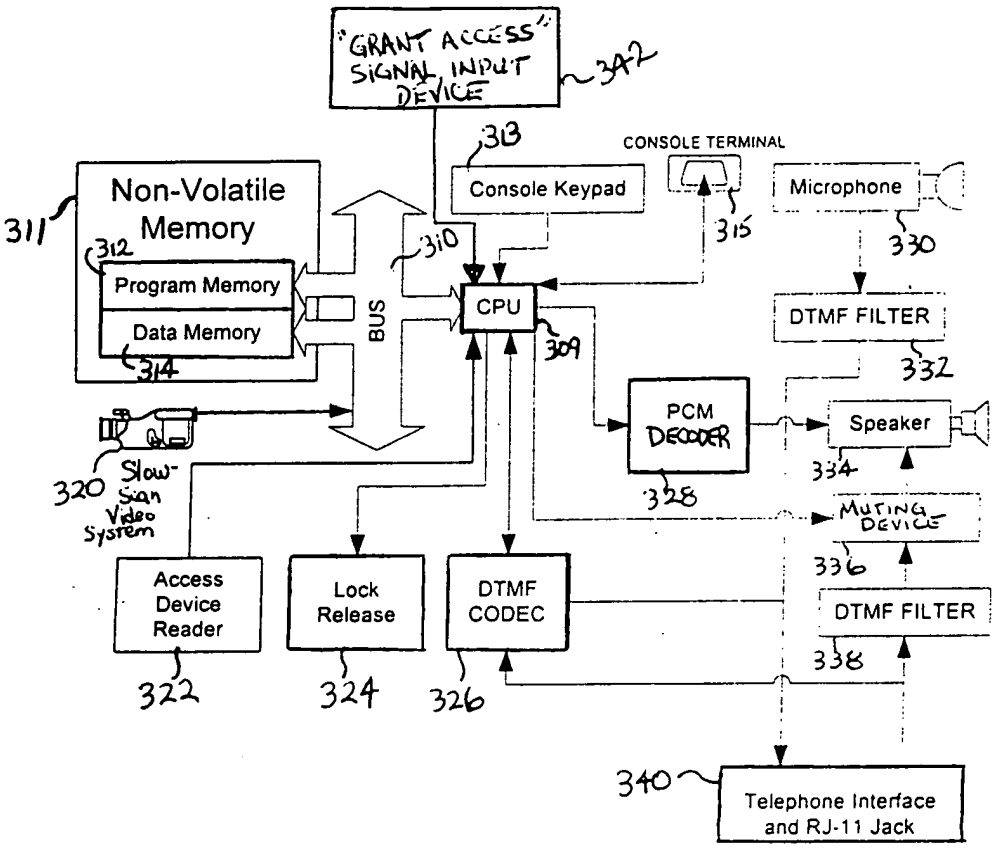
"GRANT ACCESS" SIGNAL INPUT DEVICE
342
313
CONSOLE TERMINAL
Console Keypad
Microphone
315
330
311
Non-Volatile Memory
312
Program Memory
Data Memory
314
310
BUS
CPU
309
DTMF FILTER
332
PCM DECODER
328
Speaker
334
320
Slow-Scan Video System
MUTING DEVICE
336
Access Device Reader
Lock Release
DTMF CODEC
DTMF FILTER
338
322
324
326
340
Telephone Interface and RJ-11 Jack

FIG. 3

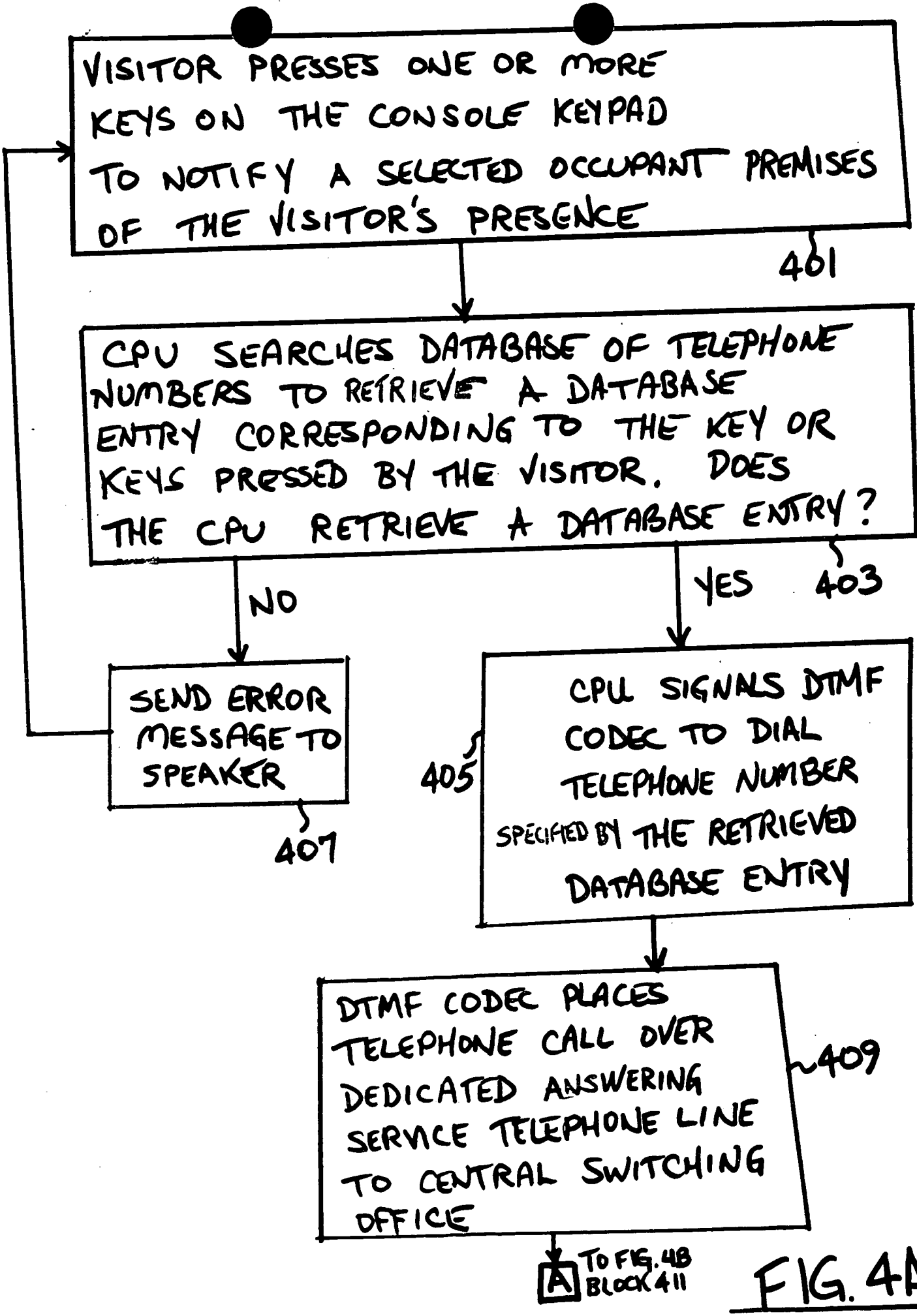
VISITOR PRESSES ONE OR MORE KEYS ON THE CONSOLE KEYPAD TO NOTIFY A SELECTED OCCUPANT PREMISES OF THE VISITOR'S PRESENCE
401
CPU SEARCHES DATABASE OF TELEPHONE NUMBERS TO RETRIEVE A DATABASE ENTRY CORRESPONDING TO THE KEY OR KEYS PRESSED BY THE VISITOR. DOES THE CPU RETRIEVE A DATABASE ENTRY?
403
NO
YES
SEND ERROR MESSAGE TO SPEAKER
407
405
CPU SIGNALS DTMF CODEC TO DIAL TELEPHONE NUMBER SPECIFIED BY THE RETRIEVED DATABASE ENTRY
DTMF CODEC PLACES TELEPHONE CALL OVER DEDICATED ANSWERING SERVICE TELEPHONE LINE TO CENTRAL SWITCHING OFFICE
409
A
TO FIG. 4B BLOCK 411

FIG. 4A

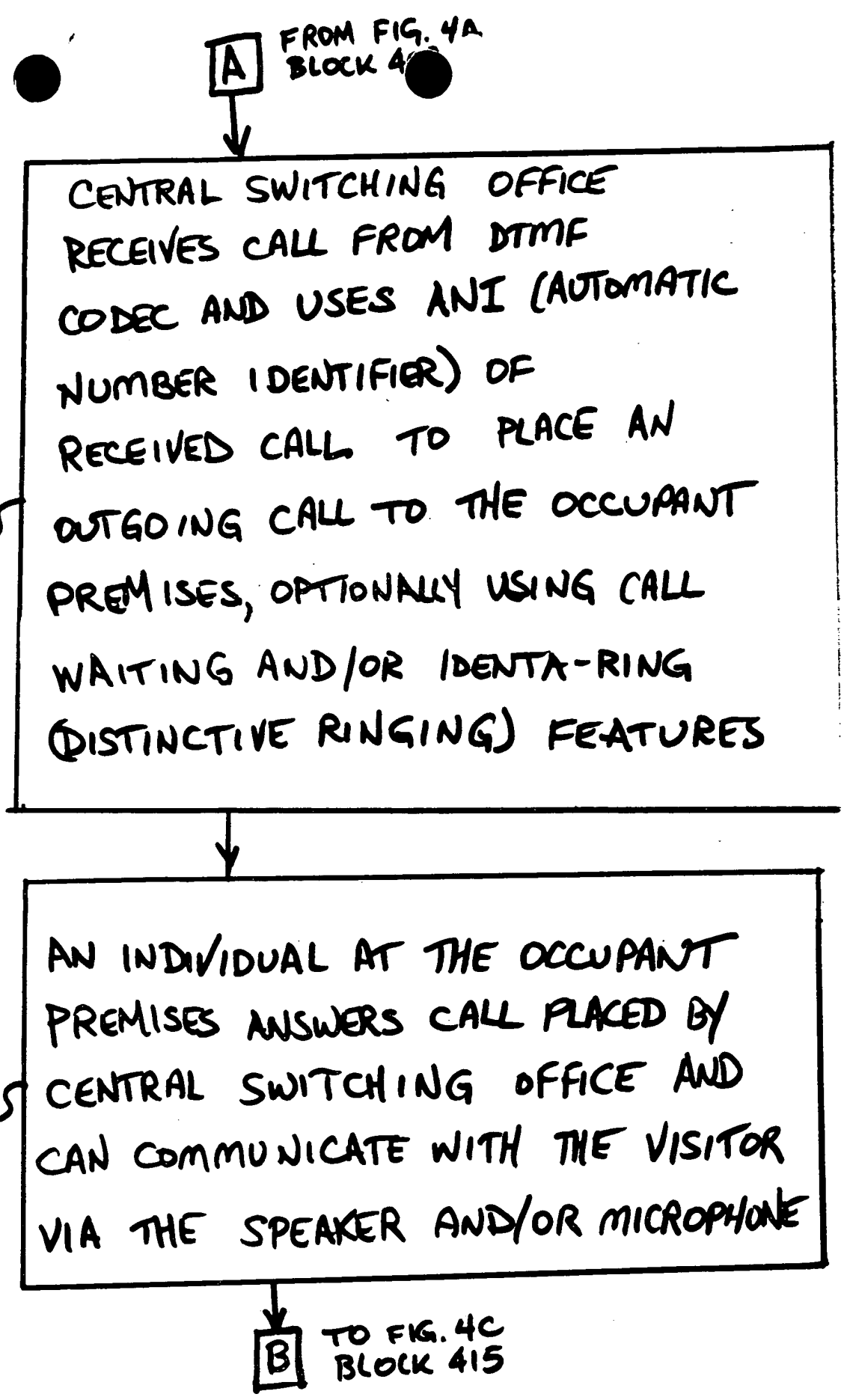
A
FROM FIG. 4A BLOCK 4
CENTRAL SWITCHING OFFICE RECEIVES CALL FROM DTMF CODEC AND USES ANI (AUTOMATIC NUMBER IDENTIFIER) OF RECEIVED CALL TO PLACE AN OUTGOING CALL TO THE OCCUPANT PREMISES, OPTIONALLY USING CALL WAITING AND/OR IDENTA-RING (DISTINCTIVE RINGING) FEATURES
411
AN INDIVIDUAL AT THE OCCUPANT PREMISES ANSWERS CALL PLACED BY CENTRAL SWITCHING OFFICE AND CAN COMMUNICATE WITH THE VISITOR VIA THE SPEAKER AND/OR MICROPHONE
413
B
TO FIG. 4C BLOCK 415

FIG. 4B

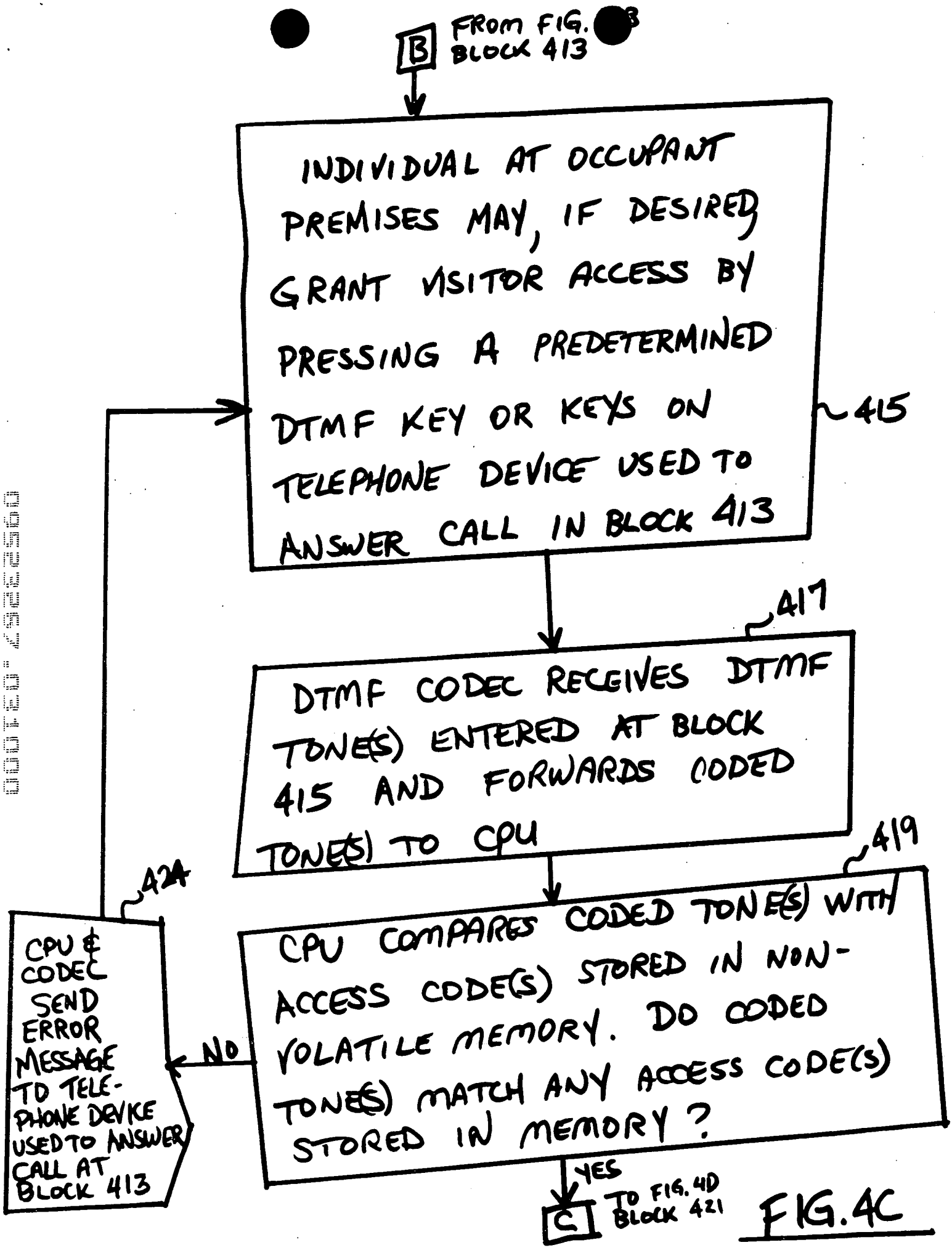
B
FROM FIG. 3 BLOCK 413
INDIVIDUAL AT OCCUPANT PREMISES MAY, IF DESIRED, GRANT VISITOR ACCESS BY PRESSING A PREDETERMINED DTMF KEY OR KEYS ON TELEPHONE DEVICE USED TO ANSWER CALL IN BLOCK 413
415
DTMF CODEC RECEIVES DTMF TONE(S) ENTERED AT BLOCK 415 AND FORWARDS CODED TONE(S) TO CPU
417
CPU COMPARES CODED TONE(S) WITH ACCESS CODE(S) STORED IN NON-VOLATILE MEMORY. DO CODED TONE(S) MATCH ANY ACCESS CODE(S) STORED IN MEMORY?
419
NO
CPU & CODEC SEND ERROR MESSAGE TO TELEPHONE DEVICE USED TO ANSWER CALL AT BLOCK 413
424
YES
C
TO FIG. 4D BLOCK 421

FIG. 4C

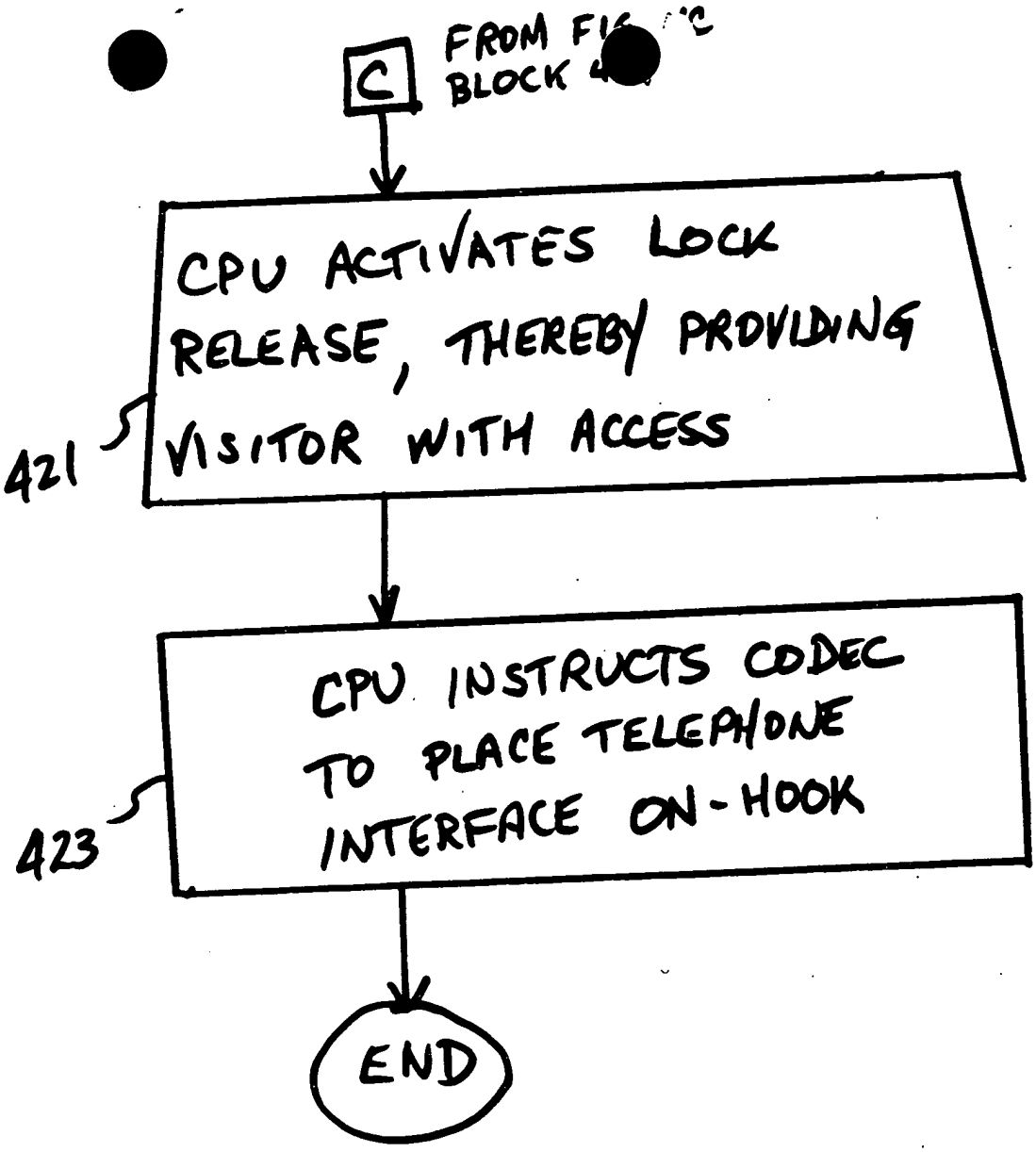
C
FROM FIG. 4C BLOCK 4
CPU ACTIVATES LOCK RELEASE, THEREBY PROVIDING VISITOR WITH ACCESS
421
CPU INSTRUCTS CODEC TO PLACE TELEPHONE INTERFACE ON-HOOK
423
END

FIG. 4D

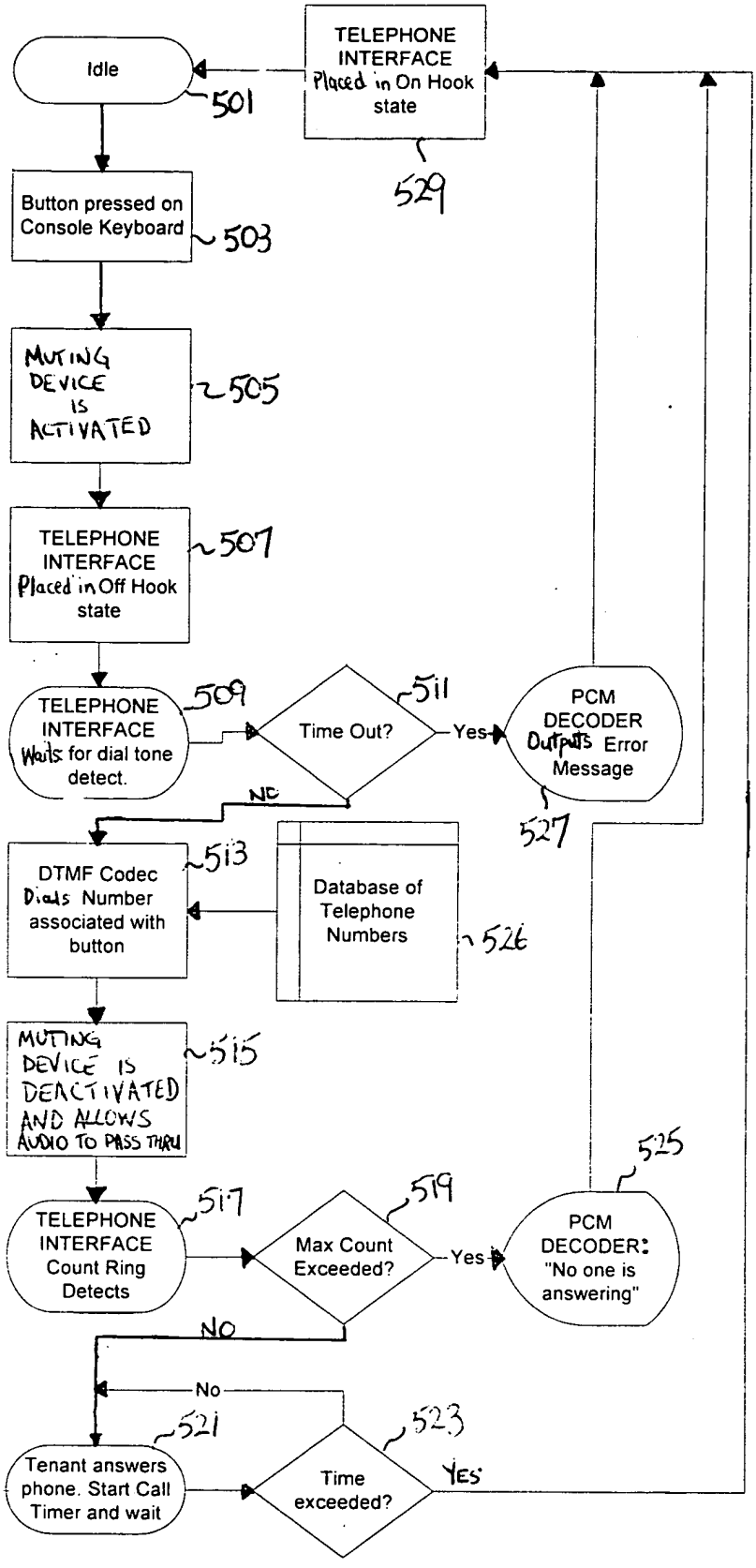
TELEPHONE INTERFACE Placed in On Hook state
529
Idle
501
Button pressed on Console Keyboard
503
MUTING DEVICE IS ACTIVATED
505
TELEPHONE INTERFACE Placed in Off Hook state
507
TELEPHONE INTERFACE Waits for dial tone detect.
509
Time Out?
511
Yes
PCM DECODER Outputs Error Message
527
NO
DTMF Codec Dials Number associated with button
513
Database of Telephone Numbers
526
MUTING DEVICE IS DEACTIVATED AND ALLOWS AUDIO TO PASS THRU
515
TELEPHONE INTERFACE Count Ring Detects
517
Max Count Exceeded?
519
Yes
PCM DECODER: "No one is answering"
525
NO
No
Tenant answers phone. Start Call Timer and wait
521
Time exceeded?
523
YES

FIG. 5

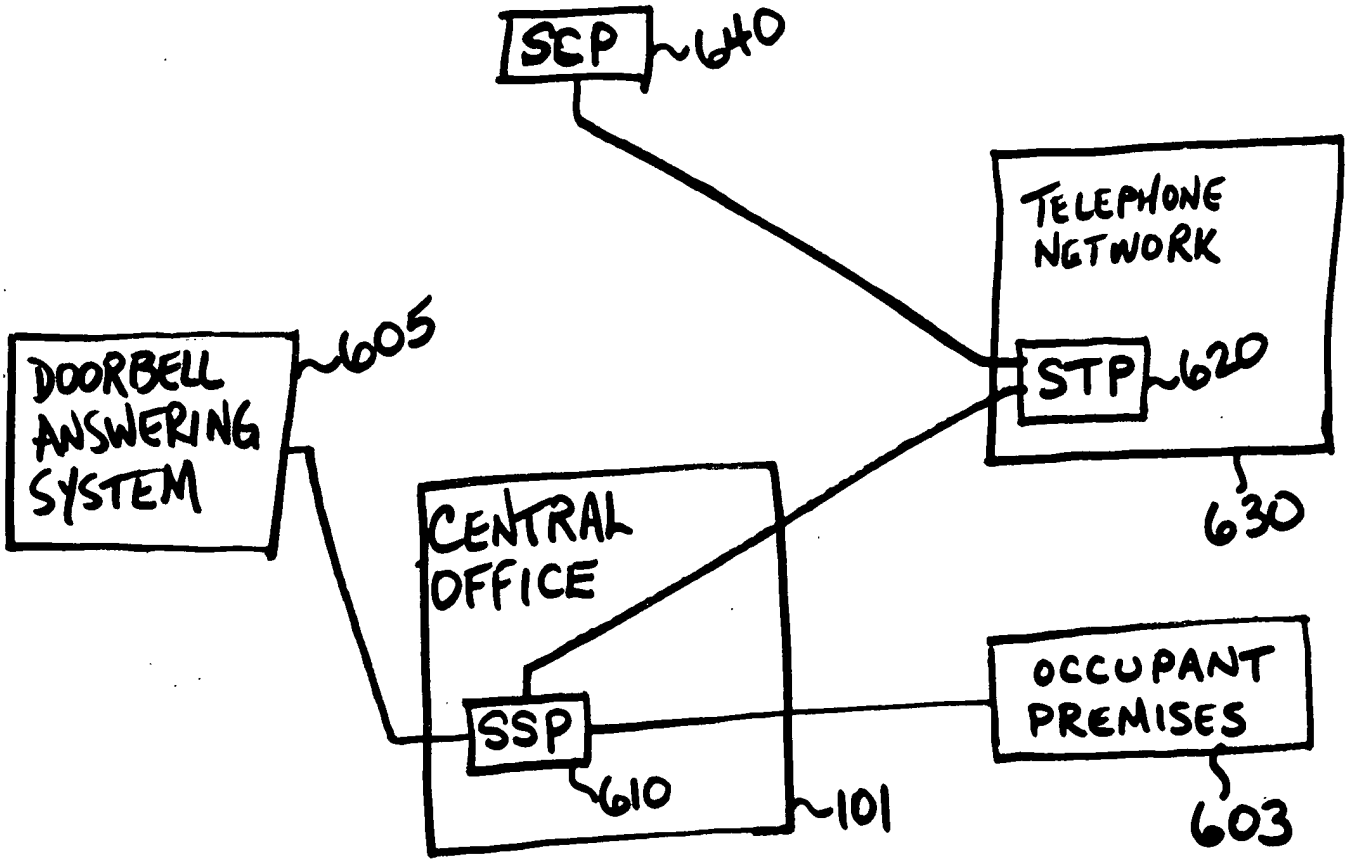
SCP
640
TELEPHONE NETWORK
DOORBELL ANSWERING SYSTEM
605
STP
620
630
CENTRAL OFFICE
OCCUPANT PREMISES
SSP
610
101
603

FIG. 6

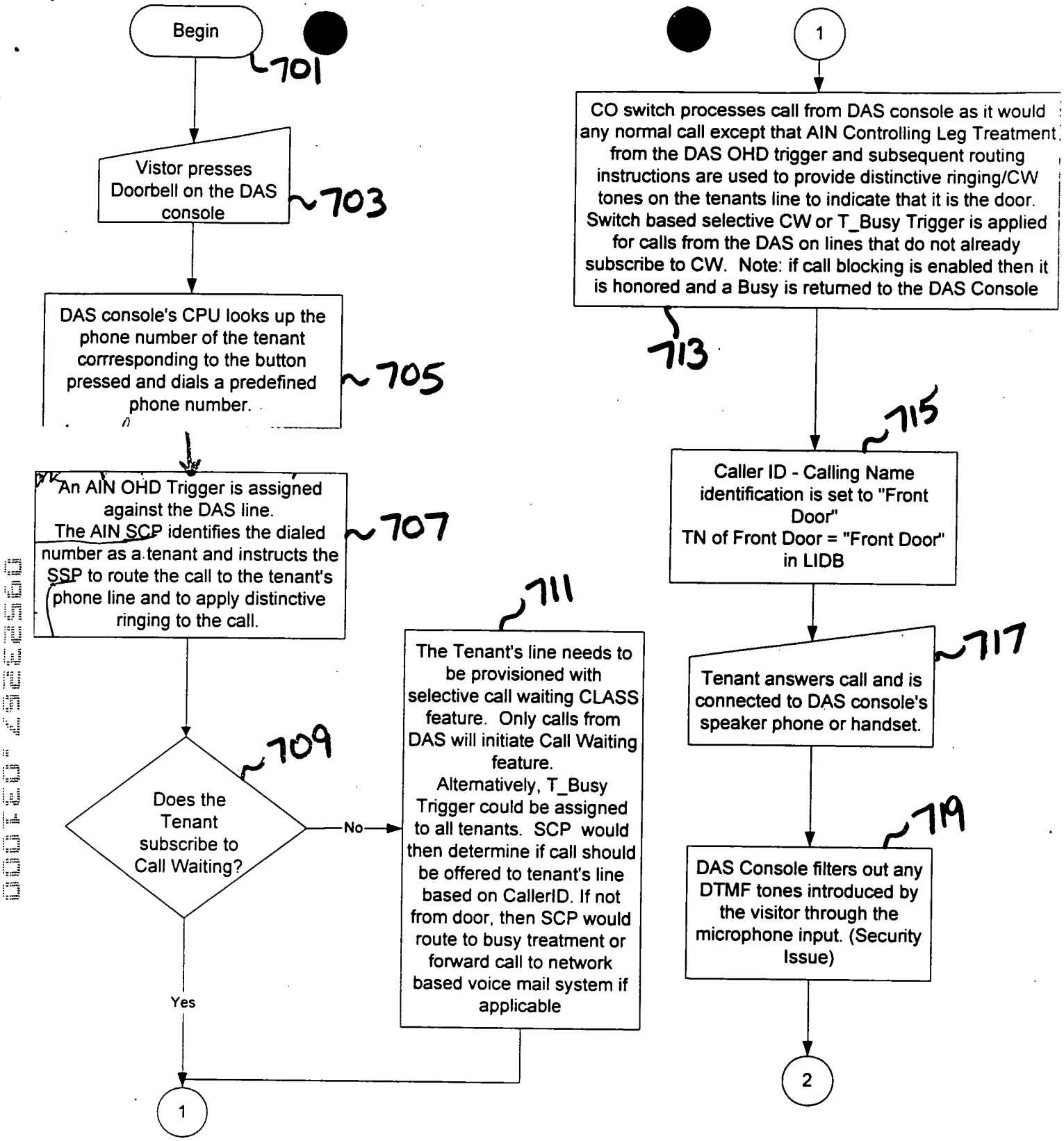
Begin
701
Vistor presses Doorbell on the DAS console
703
DAS console's CPU looks up the phone number of the tenant corresponding to the button pressed and dials a predefined phone number.
705
An AIN OHD Trigger is assigned against the DAS line. The AIN SCP identifies the dialed number as a tenant and instructs the SSP to route the call to the tenant's phone line and to apply distinctive ringing to the call.
707
Does the Tenant subscribe to Call Waiting?
709
No
Yes
The Tenant's line needs to be provisioned with selective call waiting CLASS feature. Only calls from DAS will initiate Call Waiting feature. Alternatively, T_Busy Trigger could be assigned to all tenants. SCP would then determine if call should be offered to tenant's line based on CallerID. If not from door, then SCP would route to busy treatment or forward call to network based voice mail system if applicable
711
1
1
CO switch processes call from DAS console as it would any normal call except that AIN Controlling Leg Treatment from the DAS OHD trigger and subsequent routing instructions are used to provide distinctive ringing/CW tones on the tenants line to indicate that it is the door. Switch based selective CW or T_Busy Trigger is applied for calls from the DAS on lines that do not already subscribe to CW. Note: if call blocking is enabled then it is honored and a Busy is returned to the DAS Console
713
Caller ID - Calling Name identification is set to "Front Door" TN of Front Door = "Front Door" in LIDB
715
Tenant answers call and is connected to DAS console's speaker phone or handset.
717
DAS Console filters out any DTMF tones introduced by the visitor through the microphone input. (Security Issue)
719
2

FIG. 7A

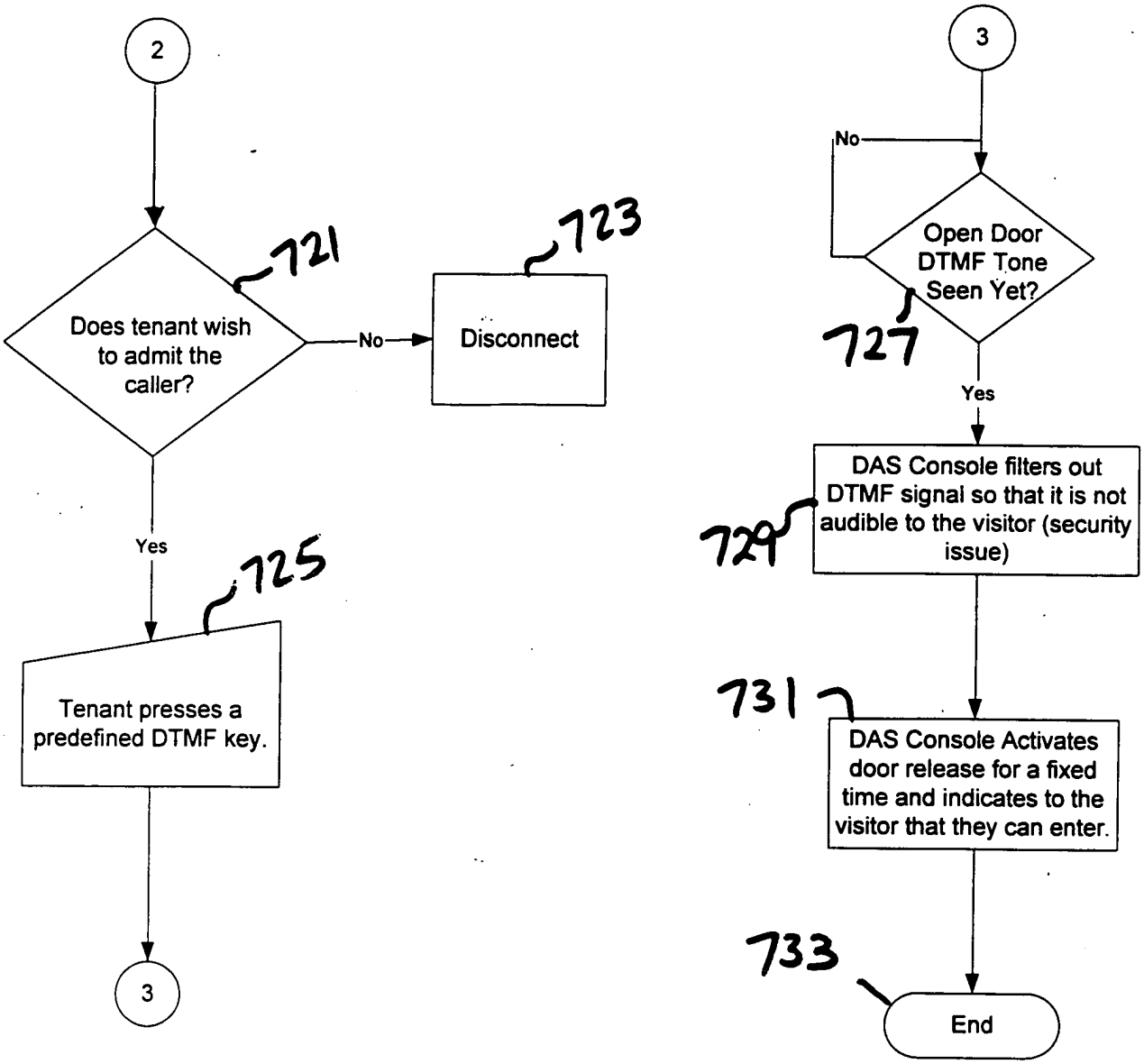
2
721
Does tenant wish to admit the caller?
No
723
Disconnect
Yes
725
Tenant presses a predefined DTMF key.
3
3
No
Open Door DTMF Tone Seen Yet?
727
Yes
DAS Console filters out DTMF signal so that it is not audible to the visitor (security issue)
729
731
DAS Console Activates door release for a fixed time and indicates to the visitor that they can enter.
733
End

FIG. 7B